8.0 Modified OU7 Passive Treatment System Objective

The OU7 PSITS has been in operation since May 1996. The system has recently been evaluated for treatment objective efficiency. The evaluation has shown the main chemicals of concern in the landfill are vinyl chloride and benzene, which do not load well on granular GAC. The complete removal of low levels of vinyl chloride requires monthly GAC changeout. Vinyl chloride and benzene are extremely volatile and amenable to air stripping. Therefore, the treatment system has been modified to allow aeration of landfill effluent water to achieve vinyl chloride and benzene removal. The passive air stripping is better suited to treating the volatile chemicals of concern.

9.0 Modified OU7 Passive Treatment System Overview

This addition to the OU7 Passive Seep Interception and Treatment System Sampling and Analysis Plan RF/ER-96-0019, Rev. 0, allows for the temporary sampling and analysis of the new aeration system. The new passive treatment system will use the existing equipment with a modified the flow path. Water will flow from the settling basin directly through the existing effluent line. The effluent line will pass directly through the former treatment vault without GAC treatment. The effluent line will then exit the treatment vault and flow over stepped flagstones for an elevation change of approximately 1 foot. After the flagstone steps, the water flows over a bed of gravel for six feet. Samples will be collected monthly for 12 months and semi annually after one year.

These modifications only apply to the Sampling Locations, Frequency and Analytical Methods sections. All other sections of the original SAP remain in effect.

10.0 Sampling Approach, Locations, Frequency and Analytical Methods

Water samples will be collected monthly from the flow equalization basin (SW00396) and from the treatment system endpoint (SW00196). The treatment system end point is defined as the point six feet down stream of the last flagstone step. The sample location codes will remain SW00396 for the settling basin and SW00196 for the treatment system endpoint. Sampling the treatment system endpoint satisfies the substantive requirements of the National Pollution Discharge Elimination system (NPDES) permit waiver under RFCA. Samples will be collected using a stainless beaker. Sample Report Identification Number (RIN) and laboratory assignments will be obtained from the Analytical Services Division (ASD). Samples will be analyzed for the analytical suites in Table 10-1 and Table 10-2. The project manager may add additional analysis as required. Sample bottle sizes and turn around times may be modified with approval from the ASD.

11/19/98 JRC

ADMIN RECORD
A-OU07-000421

Table 10-1
Treatment System Endpoint (SW00196) Sampling Requirements

Analytical Suite	Analytical Method	Bottle Size	Preservation	Turn Around Time	ASD Line Item Code	Holding Time
VOC[a]	VOCs (low level) SOW 8260	3 X 40 ml glass	4° + HCl	Routine	SS01B004	14 days
SVOC[a]	SVOC 8270	4 X 1 Liter glass	4°C	Routine	SS02B003	7 days to extraction 40 days to analysis
Metals[ab]	Total Metals + Hg (low level) by CLP-SOW	1 Liter HDPE	4°C + HNO_3	Routine	SS05B001	6 months to extraction, 6 months to analysis except Hg; Hg 28 days to extraction, 28 days to analysis
Isotopic Pu/Am/U[b]	Isotopic Pu 239/240, Am 241& U233/234/235/238 Water	4 Liter HDPE	HNO_3	Routine	RC01B002	6 months
Tritium	Tritium Water	.125 ml glass	None	Routine	RC02B001	6 months
Gross Alpha/Beta[b]	Gross Alpha/Beta Water	1 Liter HDPE	HNO_3	Routine	RC04B001 or OS01A04	6 months

a Samples to be preserved at 4°C will be stored on blue ice (or equivalent) in a sample cooler after sampling until transfer to the sample storage refrigerator. Sample temperature in the cooler will not be monitored during sampled transfers within RFETS.

b pH < 2 will be confirmed for acid preserved non-volatile samples.

Table 10-2
Settling Basin (SW00396) Sampling Requirements

Analytical Suite	Analytical Method	Bottle Size	Preservation	Turn Around Time	ASD Line Item Code	Holding Time
VOC[a]	VOCs (low level) SOW 8260	3 X 40 ml glass	4° + HCl	Routine	SS01B004	14 days
SVOC[a]	SVOC 8270	4 X 1 Liter glass	4°C	Routine	SS02B003	7 days to extraction 40 days to analysis

a Samples to be preserved at 4°C will be stored on blue ice (or equivalent) in a sample cooler after sampling until transfer to the sample storage refrigerator. Sample temperature in the cooler will not be monitored during sampled transfers within RFETS